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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,209	01/16/2001	James E. Hildreth	JHU1290-7	5480

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EXAMINER	
NAVARRO, ALBERT MARK	
ART UNIT	**PAPER NUMBER**
1645	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/761,209	HILDRETH, JAMES E.	
	Examiner	Art Unit	
	Mark Navarro	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8,9,11-17 and 24-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8,9,13-17,24-30 and 32-34* is/are rejected.

7)☒ Claim(s) *11,12 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicants amendment filed February 2, 2004 has been received and entered. Accordingly claims 8-9, 11-17 and 24-34 remain pending in the instant application.

Claim Rejections - 35 USC § 112

1. The rejection of claims 24-28 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention is maintained.

Applicants are asserting that the claims have been amended to recite a method of suppressing HIV induced cell fusion. Applicants assert that Examples 2 & 3 illustrate the use of antibodies that suppress intercellular leukocyte adhesion to block HIV mediated cell fusion, therefore, the present invention teaches a skilled artisan how to make and use the claimed methods of suppressing HIV induced cell fusion.

Applicants arguments have been fully considered but are not found to be fully persuasive.

Applicants assert that the claims have been amended to recite a method of suppressing HIV induced cell fusion. However, www.dictionary.com defines the word "suppress" as "to put an end to." In other words, Applicants claims encompass methods of preventing HIV cell fusion, as well as preventing HIV cell fusion within an uninfected individual who received the antibodies prophalactically.

Facts that should be considered in determining whether a specification is enabling, or if it would require an undue amount of experimentation to practice the invention include: (1) the quantity of experimentation necessary to practice the invention, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. In re Wands, 858 F.2d 731,737, 8 USPQ2d 1400, 1403 (Fed. Cir. 1988). The Federal Circuit has noted, however, that only those factors that are relevant based on the facts need to be addressed. Enzo Biochem. Inc. v. Calgene, Inc. 188 F.3d 1362, 1371, 52 USPQ2d 1129, 1135 (Fed. Cir. 1999).

Fact number three, no working in vivo examples are present. While Applicants Examples describe inhibition of syncytium formation when PHA-blasts were incubated with various concentrations of H52, this is simply not analogous to an in vivo efficacy. As set forth by Fahey et al (Clin. Exp. Immunol. Vol. 88, pp 1-5, 1992) in which a summary of the results obtained in trials using numerous different types of immune based therapies have not achieved success. (See table 1). The teachings of Fahey et al directly address facts four, five and seven. All of the immune based therapies reported by Fahey et al demonstrated the potential of success in vitro, however, this correlation to in vivo results was demonstrated to be lacking.

In view of the lack of working examples, and the lack of success which has been achieved to date in the use of immune-based therapies in general, and of antibody-

based therapies in particular, for therapy of HIV-1 infection, one of skill in the art would be forced into undue experimentation to practice the broadly claimed invention.

For reasons of record, as well as the reasons set forth above, this rejection is maintained.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. The rejection of claims 8-9, 13-15, 29-30, 32, and 34 under 35 U.S.C. 102(e) as being anticipated by Arfors is maintained.

Applicants are asserting that the claimed inventions are directed to a method of ameliorating an autoimmune disease or graft rejection in an animal by administering a monoclonal antibody capable of suppressing intercellular leukocyte-leukocyte adhesion, whereas Arfors discloses methods for reperfusion therapy by administering an antibody preparation having the specificity for an LAC-epitope that is responsible for leukocyte-endothelial cell adherence. Applicants further assert that Arfors is silent with respect to the specificity of the monoclonal antibody produced by ATCC HB 10160 (H52).

Applicants arguments have been fully considered but are not found to be fully persuasive.

First, Applicants amendment to recite the monoclonal antibody ATCC HB 10160 is sufficient to overcome the rejection as applied to claims 11, 26, and 31.

Second, Applicants assert the claimed inventions are directed to a method of ameliorating an autoimmune disease or graft rejection in an animal by administering a monoclonal antibody capable of suppressing intercellular leukocyte-leukocyte adhesion, whereas Arfors discloses methods for reperfusion therapy by administering an antibody preparation having the specificity for an LAC-epitope that is responsible for leukocyte-endothelial cell adherence. However, as Applicants have acknowledged, Arfors administered a monoclonal antibody which inhibits leukocyte-endothelial cell adherence. Inflammation is characterized by the adherence of leukocytes to the vessel wall, leukocyte adhesion to the surface of endothelial cells is mediated by several complex glycoproteins, including ICAM-1. During inflammatory states, the attachment of neutrophils to the involved cell surfaces is greatly increased, primarily due to the upregulation and enhanced expression of these binding molecules. (See US Patent 6,720,141, summary). ICAM-1 mediates both leukocyte-leukocyte and leukocyte-endothelial cell adhesion. (See US PGP 2003153731). Consequently, by inhibiting the activation of the leukocyte by binding an endothelial cell, further upregulation of ICAM-1 molecules are also inhibited, which in turn inhibits further leukocyte-leukocyte adhesion. Accordingly, administration of the antibody preparation disclosed by Arfors inhibits leukocyte-leukocyte adherence as claimed.

For reasons of record as well as the reasons set forth above, this rejection is maintained.

Claim Rejections - 35 USC § 103

3. The rejection of claims 8-9, 13-17, 29-30, 32-34 under 35 U.S.C. 103(a) as being unpatentable over Arfors in view of Springer et al, Hildreth et al and Pastan et al is maintained.

Applicants are asserting that Arfors is silent with respect to an antibody that suppresses intercellular leukocyte-leukocyte adhesion. Applicants have further provided a Declaration stating that the H52 cell line has not been publicly distributed.

Applicants Declaration is sufficient to remove the Hildreth et al reference from the rejection. Accordingly, claims 11-12, 26, and 31 are no longer included within this rejection.

Applicants assertion that Arfors is silent with respect to an antibody that suppresses intercellular leukocyte-leukocyte adhesion has been fully addressed above in paragraph number 2.

It would have been prima facie obvious to combine the teachings of the cited prior art and to produce conjugates comprising anti-LAR-β chain specific monoclonal antibodies and cytotoxic moieties and to use such conjugates in methods for treating autoimmune diseases and organ transplantation. One of ordinary skill in the art would have been motivated to do so in view of the combined teachings of Pastan et al, Arfores et al, and Springer et al, showing success of reducing injury in organ transplantation individuals.

Double Patenting

4. The rejection of claims 8-9, 11-17 and 24-34 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 5,888,508 is withdrawn in view of Applicants terminal disclaimer, which has been recorded.

Claims 11-12 and 31 are objected to for depending upon a rejected base claim, however claims 11-12 and 31 are free of the prior art of record.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Navarro whose telephone number is (571) 272-0861. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith can be reached on (571) 272-0864. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Navarro
Primary Examiner
April 28, 2004